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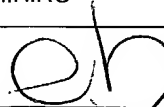
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/607,915	06/27/2003	Yoshihiro Kobayashi	TJK/395	8119
26689	7590	06/29/2004		
WILDMAN, HARROLD, ALLEN & DIXON 225 WEST WACKER DRIVE CHICAGO, IL 60606			EXAMINER CLEVELAND, MICHAEL B	
			ART UNIT	PAPER NUMBER

1762

DATE MAILED: 06/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<p align="center"><b>Office Action Summary</b></p>	<b>Application No.</b> 10/607,915	<b>Applicant(s)</b> KOBAYASHI, YOSHIHIRO	
	<b>Examiner</b> Michael Cleveland	<b>Art Unit</b> 1762	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 June 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)<br>2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)<br>3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>092303</u> . | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____<br>5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)<br>6) <input type="checkbox"/> Other: _____. |
|--|---|

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 6, and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamazaki (U.S. Patent Application 2002/0003397, hereafter '397).

'397 teaches forming an electroluminescent (EL) element by printing the EL material [0024] using an ink with a viscosity of 1-50 cP [0031].

Claim 6: The solution may be directly printed from a letterpress plate [0024; Fig. 1A].

Claim 10: Multicolor printing is possible [0173-0175].

3. Claims 1 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Miyashita et al. (WO 98/24271, hereafter '271; equivalent U.S. Patent Application Publication 2003/0054186 is used as translation).

'271 teaches forming an electroluminescent (EL) element by printing the EL material [0102] using an ink with a viscosity of 1-20 cP [0098].

Claim 10: Multicolor printing is possible [0102].

4. Claims 1-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Miyashita et al. (EP 1122793, hereafter '793).

Claims 1, 6, and 7: '793 teaches forming an electroluminescent (EL) element by intaglio printing the EL material using an ink with a viscosity of 100 cP [0036-0038].

Claim 3: The cell depth may be 15 microns [0049].

Claim 4: The intaglio is formed into plural concavities (cells) [0037].

Claims 5, 10, and 11: Three colors may be printed [0047]. Thus, the area of the group of cells that provide ink from one printing plate is smaller than the total area of the light-emitting

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layer on the formed device because the total area of the emitting pixels comprises all three colors.

Claims 8-9: The plate is elastic enough to be wound around a printing cylinder [0037].

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sarnecki (U.S. Patent Application Publication 2003/0089252, hereafter '252) in view of Towns et al. (U.S. Patent 6,153,711, hereafter '711).

'252 teaches forming an electroluminescent element by intaglio printing a light-emitting material [0008, 0010]. '252 does not explicitly teach that the ink has a viscosity of 0.5-500 cP. However, '252 does teach that the viscosity should be chosen to be a suitable viscosity for gravure printing and that such viscosities are taught by Towns '711 [0020]. Towns '711 teaches ink viscosities of 1-200 cP (col. 2, lines 56-67). The selection of something based on its known suitability for its intended use has been held to support a *prima facie* case of obviousness. *Sinclair & Carroll Co. v. Interchemical Corp.*, 325 U.S. 327, 65 USPQ 297 (1945). See MPEP 2144.07. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have chosen a viscosity of 1-200 cP as the particular viscosity of '252 with a reasonable expectation of success because '711 teaches that 1-200 cP are suitable printing ink viscosities and because '252 teaches using the viscosities of '711.

Claim 3: '252 teaches that the depth of the cells is a result-effective variable because it controls the thickness of the film formed [0011]. It has been held that the discovery of the optimum value of a result effective variable in a known process is ordinarily within the skill in the art. *In re Boesch and Slaney*, 205 USPQ 215 (CCPA 1980). Therefore, it would have been

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obvious to one of ordinary skill in the art at the time the invention was made to have optimized the depth of the cells of '252 to have achieved the desired thicknesses of [0022].

Claim 4: The intaglio is formed into plural cells to print pixels [0009], [0011].

Claims 5, 10, and 11: Separate stations may be used for each color [0022]. Thus, the area of the group of cells that provide ink from one printing plate is smaller than the total area of the light-emitting layer on the formed device because the total area of the emitting pixels comprises all three colors.

Claims 6-7: The ink may be directly printed onto the substrate [0022].

Claims 8-9: The substrate may be flexible, such as polyethylene terephthalate [0023].

7. Claims 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sarnecki '252 in view of Towns '711 as applied to claims 1-2 above, and further in view of Yamazaki '397.

'252 and '711 are described above. '252 teaches that multiple colors are applied and that each color is dried (i.e., hardened) before the next color is applied [0022], but does not teach that a later color is printed after a protective layer is placed over the already printed colors. However, '252 does teach that screen printing is an art-recognized method of printing EL inks [0004]. The selection of something based on its known suitability for its intended use has been held to support a *prima facie* case of obviousness. *Sinclair & Carroll Co. v. Interchemical Corp.*, 325 U.S. 327, 65 USPQ 297 (1945). See MPEP 2144.07.

Further, '397 teaches that EL inks may be screen printed (i.e., a process in which a mask (i.e., a protective layer) is covers the undesired areas, and ink is spread over the mask in order to print the desired pattern) [0024]. The ink may have a viscosity of 1-50 cP [0031]. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have printed the second or third ink of '252 by the screen printing method of '397 with a reasonable expectation of success because '397 teaches that screen printing an EL ink with a viscosity of 1-50 cP is an operative method of depositing an EL material.

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8. Claims 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sarnecki '252 in view of Towns '711 as applied to claims 1-2 above, and further in view of Minamino (U.S. Patent 6,197,379, hereafter '379).

'252 and '711 are described above. '252 teaches that multiple colors are applied, but does not teach that a later color is printed while a previous color is still wet.

'379 teaches that in coatings applied by method such as gravure coating, external defects may be decreased by applying the next coating before the previous one has dried. Such "wet-on-wet" coating allows simultaneous drying as well (col. 1, lines 21-53). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have applied the second color before the first had dried in order to have avoided external contaminants and to have eliminated separate drying steps for each color.

### *Conclusion*

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Louwet (U.S. Patent 6,632,472) is cited for its teachings of viscosity, Fujita (U.S. Patent 6,582,504) is cited for its teachings of intaglio printing. Watt (U.S. Patent 4,105,806) is cited for its teachings of wet-on-wet intaglio processes.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Cleveland whose telephone number is (571) 272-1418. The examiner can normally be reached on Tuesday-Friday and alternate Mon, 8-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive Beck can be reached on (571) 272-1415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "Michael Cleveland".

Michael Cleveland  
Patent Examiner  
June 26, 2004